

Computerized recording

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GEOLOGISTS REPORT

for

W. Johnson #2-85
NE $\frac{1}{4}$, SE $\frac{1}{4}$, Sec. 35, T9S, R19E
Jefferson County, Kansas

July 1985

by

George E. Petersen C.P.G.S.

DEACON GEOLOGY INC.



professional geologists

GEOLOGISTS REPORT

W. Johnson #2-85

July 30, 1985: Arrived on location @ 8PM, Drlg at 1370.

July 31, 1985: Released from location @ 5:30PM.

Elevation: 1128 G.L. (Topo)

FORMATION TOPS	LOG DEPTH	DATUM	THICKNESS
Hushpuckney Sh.	866	+262	-
Marmaton Gp.	1,008	+120	95'
Cherokee Gp.	1,103	+25	500'
"U. McLouth"	1,548	-420	12'
"M. McLouth"	1,564	-436	4'
"L. McLouth"	1,568	-440	34'
Mississippian Lm.	1,603	-475	-
RTD	1,647		
LTD	1,642		

Sample returns were examined from a drilled depth of 1200 feet to T.D. for the presence of visible hydrocarbons. Formation tops and intervals for this report were picked from sample returns, the drilling time log and the Neutron-Density Porosity Log. There was no visible evidence of the presence of hydrocarbons in any of the geologic units above the "McLouth Sands".

CHEROKEE SANDS:

There were several sands located between 1300 and 1430 which should be evaluated before eventual abandonment of the well. There were no shows of oil from these intervals; however there is the possibility that there may be gas present in many of these sands.

The "Upper McLouth Sand " was reached at a log depth of 1548' (-420). This unit had a thickness of 12 feet and was separated from the "Middle McLouth" by approximately four feet of shale. The middle sand had a thickness of 4 feet and was separated by a very thin shale from the lower sand.

The upper, middle and upper two-thirds of the lower sand, was a coarse grained, oil stained, sunrounded, quartz sand. The

upper and middle sands were shaly as shown on the gamma curves while the lower sand was a clean sand. The shale content in the upper units will cause the Sw values to appear higher than they actually are due to the water adhering to the shale.

There was a slight show of free oil, light brown in color, and a moderate odor throughout the upper two-thirds of the unit. The lower part of the "Lower McLouth" was a clear, coarse grained quartz sand containing a dark brown, heavy oil.

Application of trichlorethane to samples from throughout the interval yielded streaming cuts and bright yellow fluorescence.

Calculations for the "McLouth Sands" were prepared on location by Mr. Glenn Schmeidler of Log-Tech Inc. using the following values: $M=1.8$, $R_w = .2$.

Interval	ϕ	Rt	Sw
1548-50	12	6	100
50-52	12	8	100
52-54	12	8	100
54-56	13	8.5	95
56-58	14	8	93
58-60	12	7.5	100
1564-66	18	20	45
66-68	20	30	35
68-70	25	30	28
1570-72	26	40	24
72-74	27	90	15
74-76	27	100	14
76-78	27	85	16
78-80	27	90	15
80-82	27	40	23
82-84	27	60	24
84-86	28	40	23
86-88	27	25	28
88-90	26	30	27
90-92	23	20	38
92-94	22	50	25
94-96	22	90	18
96-98	22	50	25
98-1600	21	70	27
1600-02	18	50	29

The Neutron-Density Porosity Log indicated a strong cross-over gas effect from 1568 to 1591. This well is very similar to the Farris #1-85, P. King #1-85, and the W. Johnson no's 1-85 and 3-85.

This well has the potential to be a good gas well if completed in the "Lower McLouth Sand".

MISSISSIPPIAN LIME:

The top of the Mississippian Lime was reached at a log depth of 1603 (-475). Sample returns consisted of a very coarsely crystalline to fragmental limestone, tan in color with some small green inclusions. White tripolitic chert was also found in the sample returns. There were no shows of oil or gas in the drilled interval and no production can be anticipated from the Mississippian in this well.

CONCLUSIONS AND RECOMMENDATIONS:

The "Lower McLouth Sand" should be a very good gas producing zone. The strong cross-over effect, low Sw values, and a relatively thick pay section should make this an excellent well.

Bond logs should be run before any perforating attempt to insure a good cement bond. Gas entering the well bore from the pay zone during cementing operations can contaminate and weaken the cement column which in turn can lead to excessive water production thru channeling.

Should additional information be required, please contact me.

Respectfully submitted,

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DEACON GEOLOGY INC.

mrp/GEP